

Service Manual

Turntable System

SL-B5

[M], [MC]

SL-B5A

[M]



Areas

* [M] is available in U.S.A.

* [MC] is available in Canada.

SPECIFICATION

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

General

Power supply: 120V, AC 50 or 60 Hz
Power consumption: 3 W
Dimensions: 43.0 x 17.9 x 37.2 cm
 (W x H x D) (16-59/64" x 7-3/64" x 14-41/64")
Weight: 4.8 kg (10.6 lb)

Turntable section

Type: Automatic turntable (Multiple play)

Auto start
 Auto return
 Auto stop
 Repeat play

Drive method:

Beld drive

Motor:

Frequency generator servo
 DC motor

Turntable platter:

Aluminum die-cast
 Diameter 30.4 cm (12 inches)

Turntable speeds:

33-1/3 rpm and 45 rpm

Pitch control:

±6% adjustment range

Wow and flutter:

0.045% WRMS (JIS C5521)
 ±0.06% peak (IEC 98A Weighted)

Rumble:

-70 dB (IEC 98A Weighted)

Tonearm section

Type: Universal tonearm
Effective length: 230 mm (9-1/16")

Overhang:

15 mm (19/32")

Effective mass:

12 g (without cartridge)

Tracking error angle:

Within 2°32' at the outer groove
 of 30 cm (12") record
 Within 0°32' at the inner groove
 of 30 cm (12") record
 22°

Offset angle:

Effective mass:

12 g (without cartridge)

Stylus pressure

adjustment range: 0-2.5 g

Applicable cartridge

weight range:

6-9.5 g
 14-17.5 g (including headshell)

Headshell weight:

8 g

Cartridge section

(for SL-B5A)

Type:

Moving magnet stereo cartridge

Frequency response:

20 Hz to 25 kHz

Output voltage:

2.5 mV at 1 kHz
 5 cm/s. zero to peak lateral
 velocity
 [7 mV at 1 kHz 10 cm/s. zero to
 peak 45° velocity (DIN 45 500)]

Channel separation:

22 dB at 1 kHz

Channel balance:

Within 2 dB at 1 kHz

Load impedance:

47 kΩ to 100 kΩ

Stylus pressure:

1.75±0.25 g

Replacement stylus:

EPS-74STSD (ATN71)

Technics

Panasonic Company
 Division of Matsushita Electric
 Corporation of America
 One Panasonic Way, Secaucus,
 New Jersey 07094

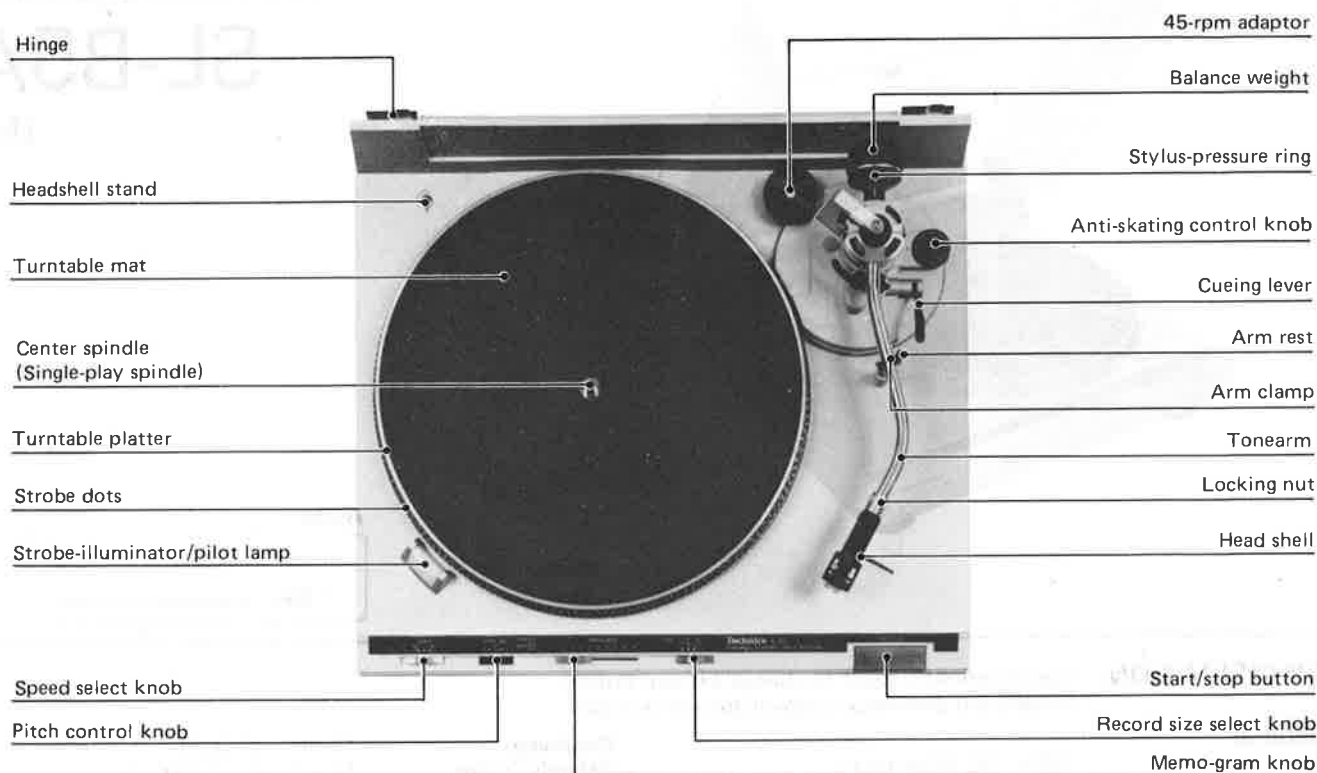
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 320 Waiakamilo Road, Honolulu,
 Hawaii 96817

Panasonic Canada
 Division of Matsushita Electric
 of Canada Ltd.
 5770 Ambler Drive,
 Mississauga, Ontario L4W 2T3

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■ PARTS IDENTIFICATION



■ FEATURES

● Full-Automatic Operation

All operations in this unit are completely automatic, yet mechanical movements are accurate and silent. Full protection to records and stylus tip is assured. This is due to the "memo-gram" function unique to Technics which enables you to enjoy manual play, auto-start, auto-return, auto-stop, repeated performance from 1 to 6 times and continuous play, and, in addition, multiple play, capable of playing 1 to 6 records continuously.

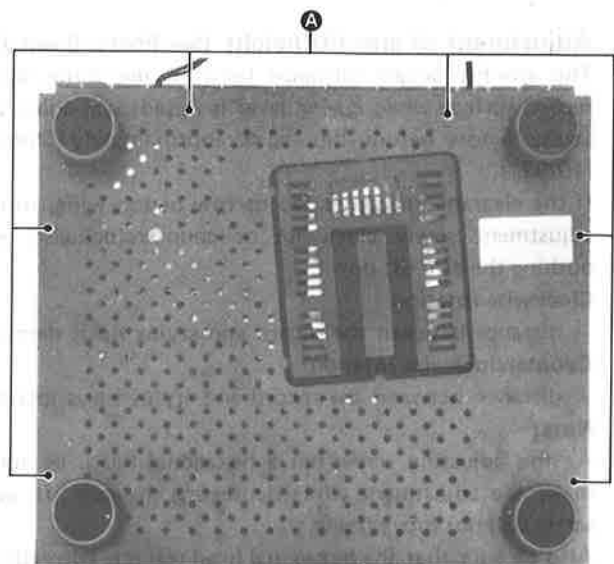
● Front panel controls provide exceptional convenience

- "TNRC"* base material provides an acoustic shield
 **TNRC"...Technics Non-Resonance Compound
- Electronic speed switching
- Pitch control with illuminated stroboscope
- Viscous-damped cueing
- Anti-skating control
- Hinged, detachable dust cover

■ DISASSEMBLY PROCEDURE

How to remove the bottom board

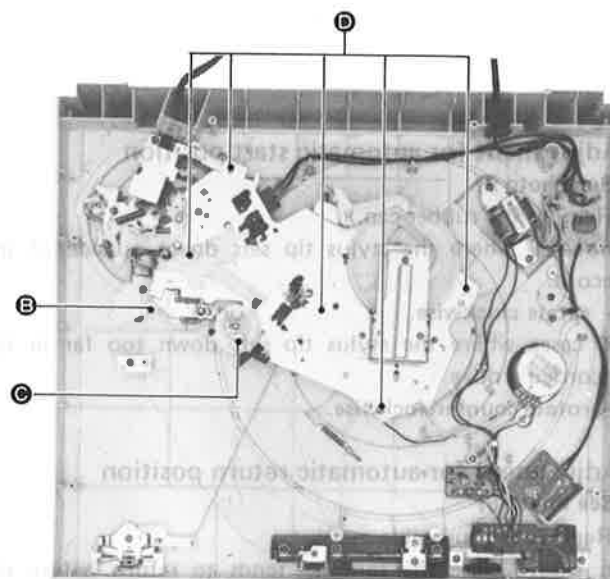
1. Remove the head shell and turntable.
2. Secure the tonearm with the arm clumper.
3. Turn over the set taking care not to damage the dust cover.
4. Remove the 6 bottom board setscrews **A**. (See Photo 1)



[Photo 1]

How to remove the automatic mechanism assy

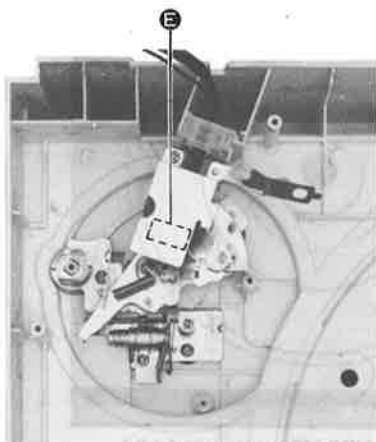
1. Remove the bottom board.
2. Remove the record size cord **B** and the repeat cord **C**. (See Photo 2)
3. Remove the 5 setscrews **D** of the automatic mechanism assy. (See Photo 2)



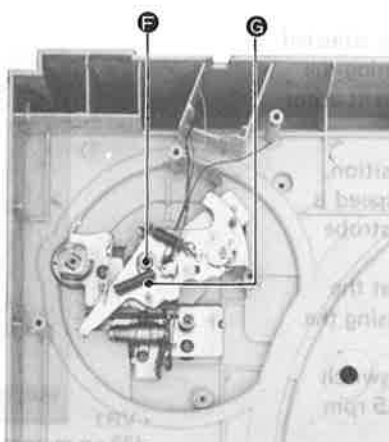
[Photo 2]

How to remove the tonearm

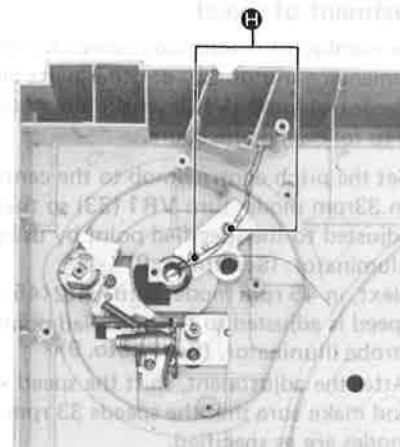
1. Remove the bottom board.
2. Remove the automatic mechanism assy.
3. Disconnect soldered of the phono leads **E**. (See Photo 3)
4. Remove the 1 setscrew **F** of the tonearm fixing plate and spring **G** of the antiskating control. (See Photo 4)
5. Remove the 2 setscrews **H** of tonearm, then the tonearm can be replaced. (See Photo 5)



[Photo 3]



[Photo 4]



[Photo 5]

■ ADJUSTMENTS

Adjustment of arm-lift height (See Photo 6 and 7)

The arm-lift height (distance between the stylus tip and record surface when cueing lever is raised) was adjusted at the factory before shipping to approximately 15mm. (19/32").

If the clearance becomes too narrow or too wide, turn the adjustment screw clockwise or counterclockwise, while pushing the arm lift down.

Clockwise rotation

— distance between the record and stylus tip is decreased.

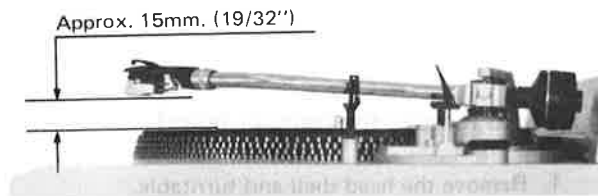
Counterclockwise rotation

— distance between the record and stylus tip is increased.

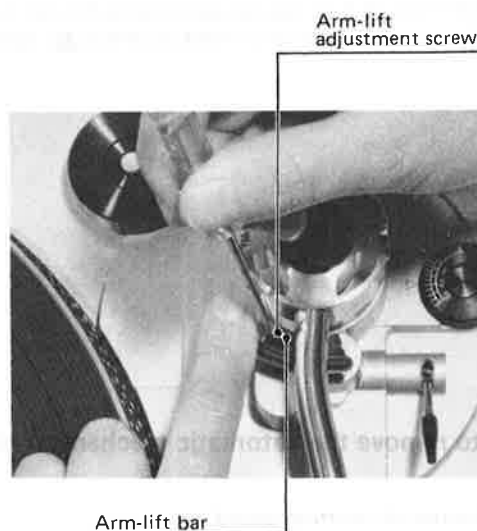
Note:

As the adjusting screw has a hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.

Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.



[Photo 6]



[Photo 7]

Adjustment for automatic start position

(See Photo 8)

(Remove the rubber cap.)

In cases where the stylus tip sets down outside of the record.

— rotate clockwise.

In cases where the stylus tip sets down too far in the recorded groove.

— rotate counterclockwise.

Adjustment for automatic return position

(See Photo 8)

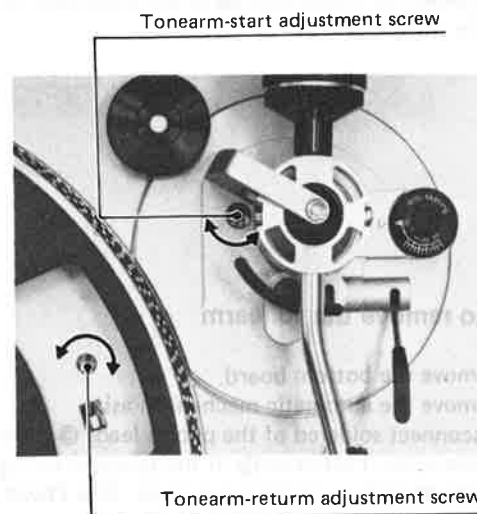
(Remove the turntable mat.)

In cases where the tonearm tends to return before the playing has finished.

— rotate clockwise.

In cases where the tonearm fails to return after the last groove of the record has been played.

— rotate counterclockwise.

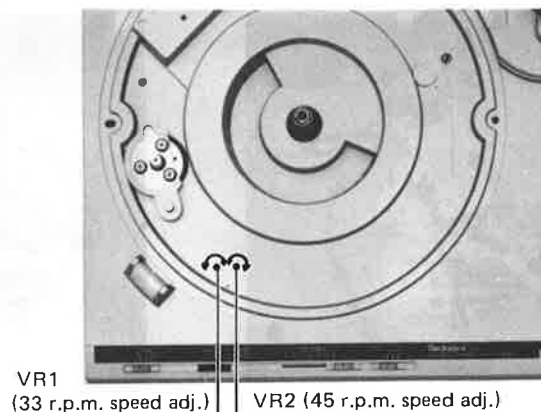


[Photo 8]

Adjustment of speed

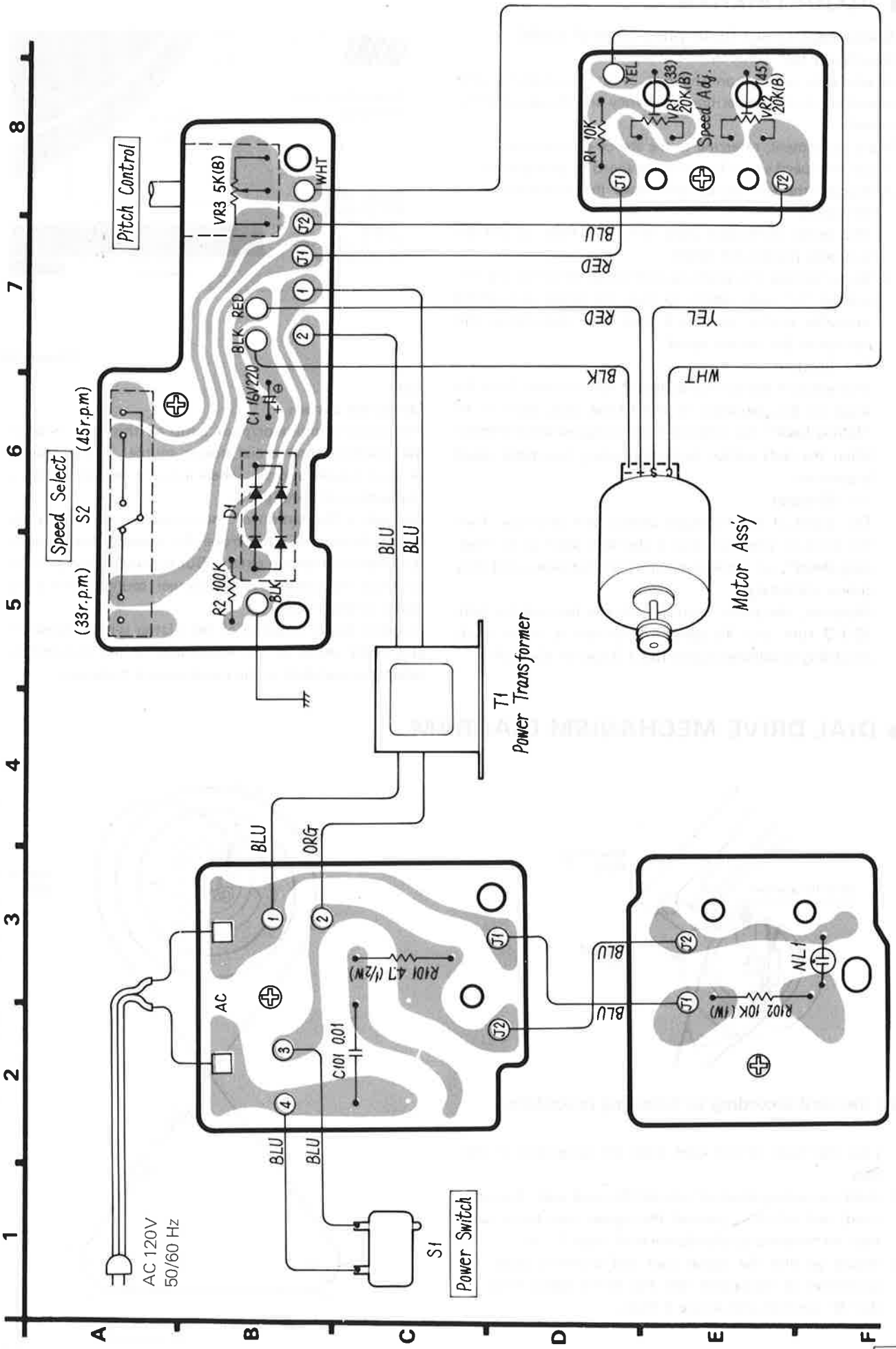
If the number of revolutions cannot be correctly adjusted by replancing motor assy or other parts and turning the pitch control knob (VR3), make the re-adjustment according to following procedure.

1. Set the pitch control knob to the central position.
2. In 33rpm mode, turn VR1 (33) so that the speed is adjusted to the specified point by using the strobe illuminator. (See Photo. 9)
3. Next, in 45 rpm mode, turn VR2 (45) so that the speed is adjusted to the specified point by using the strobe illuminator. (See Photo. 9)
4. After the adjustment, shift the speed select switch and make sure that the speeds 33 rpm and 45 rpm modes are as specified.



[Photo 9]

PRINTED CIRCUIT BOARD WIRING VIEW



■ ADJUSTMENTS

Speed adjustment (with pitch-control knob)

(See Photo 10)

Strobe dots are set on the rim of the turntable platter according to the power-line frequency and the speed of the records.

Make adjustment, referring to the strobe-dot indication.

1. Set the speed select knob to the speed to be adjusted.
2. Release the arm clamp and move the tonearm toward the record.

The strobe-illuminator/pilot lamp will light up and the turntable platter will rotate.

3. While turning the pitch-control knob either to the "+" side or "-" side, adjust so that the strobe dots of the turntable platter look as if they were stationary. This represents the correct speed.

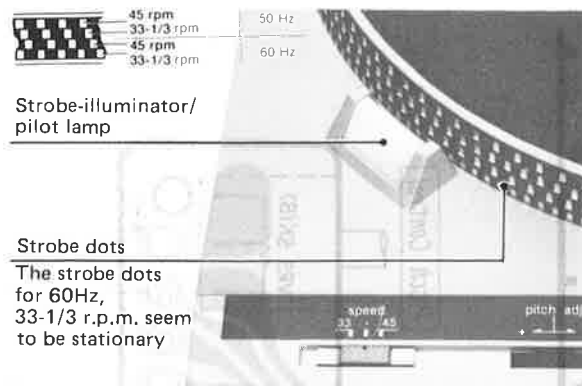
"+" direction

The speed of the turntable platter will increase. Turn the knob in this direction if the strobe dots seem to be "falling back", i.e. seem to be moving counterclockwise. When the dots appear to be stationary, turntable speed is accurate.

"-" direction

The speed of the turntable platter will decrease. Turn the knob in this direction if the dots seem to be "running ahead", i.e. seem to be moving clockwise, until they appear stationary.

Moreover, the pitch control knob can be used for both 33-1/3 rpm and 45 rpm. Adjustment is to be made according to selected speed (33-1/3 rpm or 45 rpm).



[Photo 10]

Note:

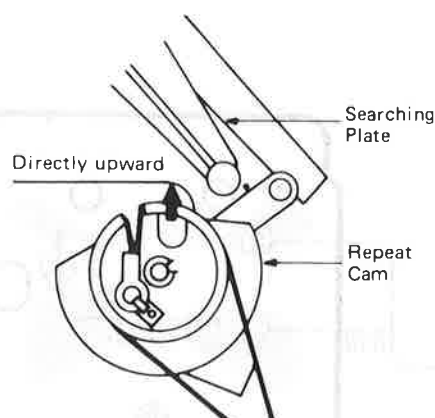
Strobe dot pattern

The strobe-illuminator/pilot lamp of this unit employs the standard commercial power source. The frequency of such power source, when actually measured, has a fluctuation of about 0.2%.

As such a fluctuation of the power source affects the strobe illuminator, the strobe dot pattern also seems to fluctuate to a certain extent. But the unit is not affected by these fluctuations of the power source, since a DC motor is employed.

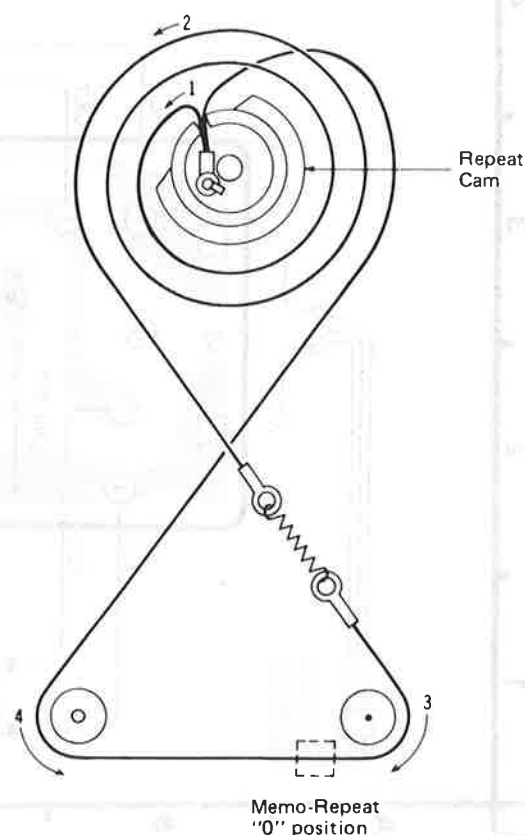
In other words, rotation of the platter will be constant, and slight shifts in the movement of the dots simply reflect normal drift in the power-source frequency.

■ DIAL DRIVE MECHANISM DIAGRAM



Set the cord according to following procedure.

1. Link the hook of the cord onto the projection of the cam.
2. Hold the spring-attached side of the cord with the right hand, and wind it around the repeat cam twice, and then set the cord in accordance with steps 1 - 4.
3. Adjust so that the repeat cam and searching plate are positioned as illustrated. Set the memo-repeat knob to the "0" position and secure it there.



SL-B5/B5A

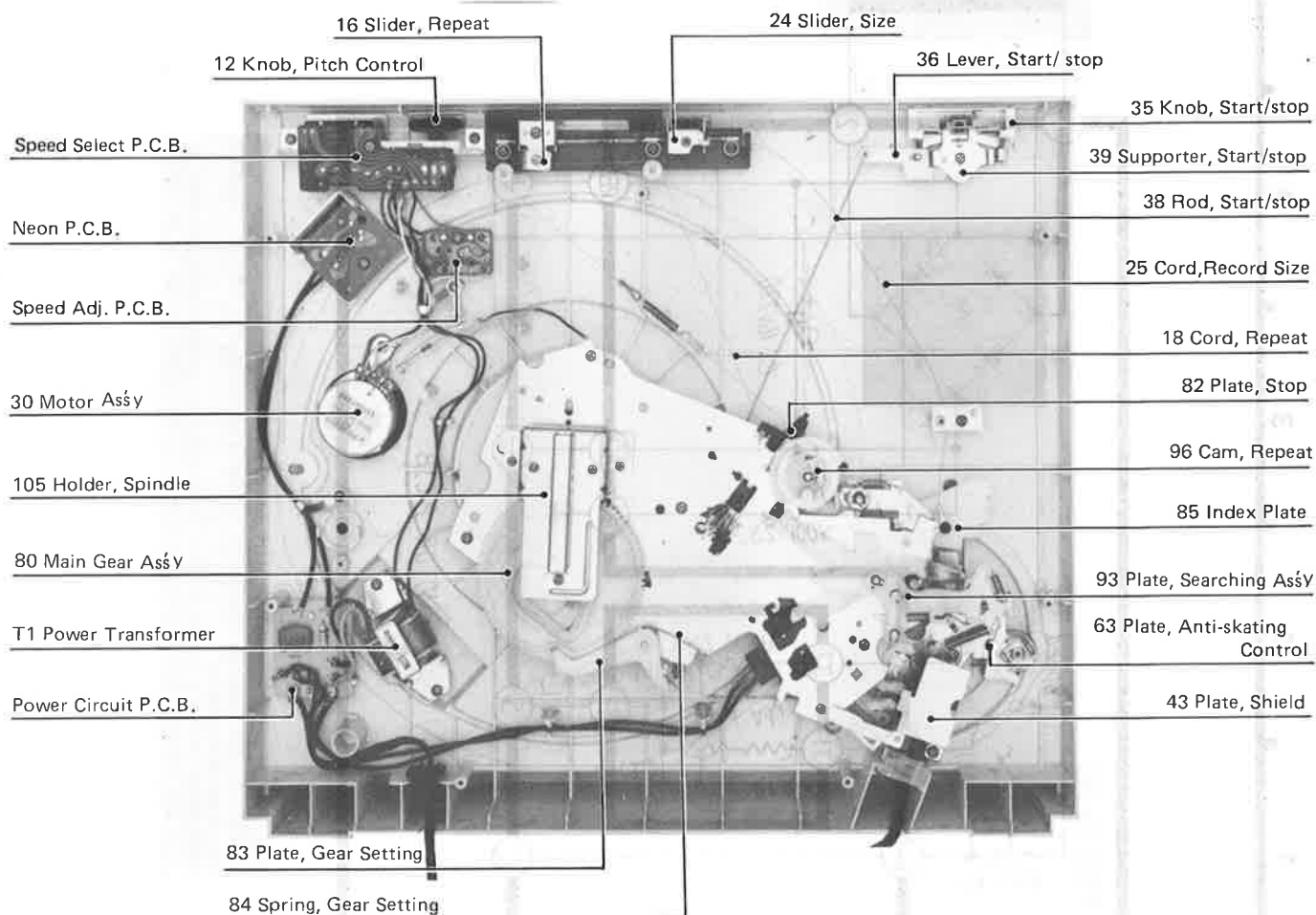
REPLACEMENT PARTS LIST

- Notes:**
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
 2. Δ indicates that only parts specified by the manufacturer be used for safety.
 3. SL-B5(M) \rightarrow [M], SL-B5(MC) \rightarrow [MC], SL-B5A(M) \rightarrow [AM]

Ref. No.		Part No.	Part Name & Description
DIODE			
D1	Δ	SVDS1RBA20Z	Rectifier
TRANSFORMER			
T1	Δ	SLTAS1-013ND	Power Transformer
SWITCHES			
S1	Δ	SFDSA764039	Switch, Power
S2		EVAH28S10AAY	Switch, Speed Selector
VARIABLE RESISTORS			
VR1, 2		EVN51AA00B24	20k Ω (B), Speed Adj. (33 & 45)
VR3		EVHX8AF15B53	5k Ω (B), Pitch Control

Ref. No.		Part No.	Part Name & Description
RESISTORS			
R1		ER025CKF1002	Metal Film, 10k Ω , 1/4W, $\pm 1\%$
R2		ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm 5\%$
R101	Δ	ERD50FJ4R7	Carbon, 4.7 Ω , 1/2W, $\pm 5\%$
R102	Δ	ERG1ANJ103	Metal Oxide, 10k Ω , 1W, $\pm 5\%$
CAPACITORS			
C1		ECEA1CS221	Electrolytic, 220 μ F, 16V
C101 [M] [AM]	Δ	ECQF1A103MD	Polypropylene, 0.01 μ F, 125V $\pm 20\%$
C101 [MC]	Δ	ECQU1A103ME	Polyester, 0.01 μ F, 125V $\pm 20\%$
LAMP			
NL1	Δ	SFDNUE2HU	Neon Lamp

PARTS ARRANGEMENT DIAGRAM





REPLACEMENT PARTS LIST

- Notes:**
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Please use this part number for parts orders.
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 - SL-B5(M) → [M], SL-B5(MC) → [MC], SL-B5A(M) → [AM]

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	SFADB50-01E	Dust Cover
2	SFTGB50-01	Turntable Mat
3	SFTE235-01	Turntable
4	SFGB321-1	Belt
5	SFAUB50-01	Bottom Board
6	SFGAB50-01E	Audio Insulator
7	SFUM235-01	Cover, Gear
8	SFGCB20-01	Cushion, Power Transformer
9	SFUPB20-03	Plate, Power Transformer
10	SFKTB20-02	Knob, Operation
11	SFUPB20-02	Plate, Speed Select Switch
12	SFKTB20-03	Knob, Pitch Control
13	SFUM212-07	Cover, Neon
14	SFKTB30-01	Knob, Repeat
15	SFXJB30-01	Rod, Supporter
16	SFUPB30-06	Slider, Repeat
17	SFUMB30-03	Supporter, Repeat Knob
18	SFUZB30-02E	Cord, Repeat
20	SFUPD30-02	Supporter, Repeat Cord
21	SFUMB30-02E	Supporter, Repeat & Size
22	SFQPD30-01	Spacer, Size Slider
23	SFYB5-32	Ball, Size Slider
24	SFUPB30-03	Slider, Size
25	SFUZD30-01E	Cord, Record Size
26	SHR401-1	Spacer, Record Size Cord
27	SFUPD30-03	Supporter, Record Size Cord
28	SFUPB20-04	Plate, Motor
29	SFGCB20-02	Rubber, Motor Cushion
30	SFMHB20-01E	Motor Ass'y W/Capstan
31	SFAT195-01A	Hinge
32 [M] [AM]	SFNNB50M01	Name Plate
32 [MC]	SFNNB50C01	Name Plate
33	SFACB50-01	Cabinet
34	SFKKB50-01	Ornament, Cabinet
35	SFKTB20-01	Knob, Start/Stop
36	SFUMD20-01	Lever, Start/Stop Knob
37	SFQAD20-01	Spring, Start/Stop Knob
38	SFUZD30-01	Rod, Start/Stop
39	SFUPL39M04	Supporter, Start/Stop Knob
40	SFUMD30-02	Supporter, Operating
41	SFUM212-08	Clamper, Phono Cord
42	SFDP212-02	P.C.B., Phono Cord
43	SFUP683R04	Plate, Shield
44	△ RJA9Y	AC Cord
45	SFDH212-01	Phono Cord
46	SFEL028-01E	Ground Wire
47	SFUM190-02	Clamper, AC Cord
50	SFKU212-01E	Arm Rest
51	SFPR113004K	Lift Ass'y
52	SFQA829-03	Spring, Lift Ass'y
53	SFGK170-01	Cap, Rubber
54	SFPCC21101K	Head Shell
55	SFPWG31101K	Blance Weight
56	SFPAM31101K	Tonearm Ass'y
57 [AM] only	EPC74SMAD	Cartridge
58 [AM] only	EPS74STD	Stylus
59 [AM] only	SFPEV9803	Screw, Cartridge
60 [AM] only	SFPEW9601	Washer, Cartridge
61 [AM] only	SFPEN3302	Nut, Cartridge
62	SFPAB13202	Knob, Cueing
63	SFXJQ20-03E	Plate, Anti-skating Control
64	SFGD20-02	Rubber, Cueing
65	SFPJL00101K	Lever, Cueing
66	SFUPB50-01A	Plate, Lift
67	SFPJK13101	Knob, Anti-skating Control
68	SFQHQ30-01	Spring, Anti-skating Control
69	SFUPQ20-03A	Tonearm Fixing Plate Ass'y
70	SFUPD33-04	Washer, Tonearm
AUTOMATIC MECHANISM ASS'Y		
80	SFUG190-22E	Main Gear Ass'y
81	SFQHD30-01	Spring, Stop Plate
82	SFUMQ30-14E	Plate, Stop
83	SFUM222-11	Plate, Gear Setting
84	SFQ5222-11	Spring, Gear Setting
85	SFUMQ30-12	Index Plate

Ref. No.	Part No.	Part Name & Description
86	SFUMQ20-19	Plate, Brake
87	SFQSQ20-13	Spring, Brake Plate
88	SFUMQ30-18	Cover, Power SW
89	SFUBQ30-11A	Operating Plate Ass'y
90	SFUMQ20-16	Supporter, Power SW
91	SFUKB50-01E	Automatic Mechanism Ass'y
92	SFUMQ20-17	Lever, Power SW
93	SFUMQ30-11E	Plate, Searching Ass'y
94	SFYB5-32	Ball, Repeat Cam
95	SFQAQ30-01	Spring, Repeat Cam
96	SFUMQ30-13	Cam, Repeat
97	SFUCQ20-11E	Actuating Plate Ass'y
98	SFTU235-01E	Shaft, Turntable
99	SFXW235-01	Washer, Turntable Shaft
100	SFUPB31-1E	Support, Turntable Shaft
101	SFGC235-01	Rubber, Turntable Shaft
102	SFXT135-01	Circlip, Turntable Shaft
103	SFUM235-03	Support, Spindle
104	SFUM235-02	Cam, Spindle
105	SFUP235-01	Holder, Spindle
106	SFUP235-02E	Plate, Turntable Shaft
SCREWS, WASHERS and CIRCLIPS		
①	XTV3+10BFN	Screw
②	XTN3+8B	Screw
③	XTCS3+16GFYR	Screw
④	XWA3B	Washer
⑤	XSN3+8S	Screw
⑥	XWG3	Washer
⑦	XTN3+20B	Screw
⑧	SFXG829-1	Screw
⑨	XSN3+12S	Screw
⑩	XTV3+14BFN	Screw
⑪	SFPEV13204	Screw
⑫	SFXGB20-01	Screw
⑬	XUC5FT	Circlip
⑭	SFXW890B01	Washer
⑮	XTV3+8BFN	Screw
⑯	XUB4FT	Circlip
⑰	XUB6FT	Circlip
⑱	SFXW230-11	Washer
⑲	SFPEW13005	Washer
⑳	SFXW623-2	Washer
㉑	SFXW130-13	Washer
㉒	SFXW910-13	Washer
㉓	XUC3FT	Circlip
ACCESSORIES		
A1 [M]	SFNUB50M01	Instruction Book
A1 [MC]	SFNUB50C01	Instruction Book
A1 [AM]	SFNUB50M02	Instruction Book
A2	SFWE212-01	Adaptor, 45 r.p.m.
A3 Except [AM]	SFYF05A0A	Polyethylene Bag
A4 Except [AM]	SFPEN3302	Nut, Cartridge
A5 Except [AM]	SFPEW9601	Washer, Cartridge
A6 Except [AM]	SFCZV8801	Screw, Cartridge
A7 Except [AM]	SFPEV9801	Screw, Cartridge
A8 Except [AM]	SFKO135-01	Overhang Gauge
A9	SFVS135-02	Single-play Spindle
A10	SFVS165-01Z	Multiple-play Spindle
A11	SFVA165-01Z	Multiple-play Spindle (45-r.p.m. Adaptor)
PACKING PARTS		
P1 [M]	SFHPB50M01	Carton
P1 [MC]	SFHPB50C01	Carton
P1 [AM]	SFHPB50M02	Carton
P2	SFHHB50-01	Pad, Front
P3	SFHHB50-02	Pad, Rear
P4	SFHHB50-03	Pad, Turntable
P5	SFHS320-01	Pad, Corner
P6	SFHDD33-03	Pad, Top
P7	SFHD683A02	Pad, Turntable
P8	SFHB50-03	Pad, Top
P9	SFHZ144X02	Polyethylene Cover, Dust Cover
P10	SFYH60X65	Polyethylene Cover, Cabinet
P11	SFYH65X60	Polyethylene Cover, Dust Cover
P12	SFYH40X45	Polyethylene Cover, Turntable
P13	SPP189	Polyethylene Cover, AC Cord and PU Cord
P14	SFYC45A50	Polyethylene Cover, Accessories

■ EXPLODED VIEWS (Automatic Mechanism Assy)

